
DEPARTMENT OF THE ARMY 03302.TD
CORPS OF ENGINEERS, TULSA DISTRICT JAN 97
JSH
TULSA DISTRICT GUIDE SPECIFICATION

SECTION 03302

CONCRETE (LESS THAN 25 CY)

NOTE: This section is to be used when very minor concrete is involved in the project (approx. 25 yards or less). Abridged guide spec CEAGS-03300A may also be used for concrete of a minor nature.

1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN CONCRETE INSTITUTE (ACI)

ACI 318/318R (1989; Rev 1992; Errata) Building Code Requirements for Reinforced Concrete

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 615 (1994) Deformed and Plain Billet-Steel Bars for Concrete Reinforcement

ASTM C 94 (1994) Ready-Mixed Concrete

ASTM C 309 (1993) Liquid Membrane-Forming Compounds for Curing Concrete

2 & 3 PRODUCTS AND EXECUTION

2.1 MATERIALS, PLACEMENT, AND FINISHING

Concrete shall be composed of Portland cement, fine aggregate, coarse aggregate, and water so proportioned and mixed as to produce a plastic workable mixture. The concrete mix shall be designed to secure a minimum compressive strength of 25 MPa 3,000 psi in 28 days and shall conform to ASTM C 94. Concrete work shall conform to ACI 318 and ACI 305R. Reinforcement shall conform to ASTM A 615, grade 40, size as indicated on the drawings. Reinforcement detailing and placement shall conform to ACI 318. Water used in mixing and curing concrete shall be fresh, clean, and free from injurious amount of sewage, oil, acid, alkali, salt, or organic matter. In general, the consistency of any mix shall be that required to produce a slump between 75 and 100 mm 3 and 4 inches. Entrained air content of exterior concrete shall be between 5 and 7 percent by volume. Concrete

shall be placed on clean, damp surfaces free from water, ice, frost, mud, or debris. Unless otherwise approved, concrete shall be mixed and placed only when the temperature is at least 2 degrees C 35 degrees F and rising. The concrete shall be spread, tamped, and screeded to a true plane. Unless otherwise indicated, concrete slabs shall be reinforced with No. 3 bars at 300 mm 12 inches on center each way located at the center of the slab. [Exterior slabs, including reinforcing, shall be turned down for a distance of 300 mm 12 inches on all sides.] Exposed concrete other than slabs shall [have fins and rough edges removed] [have joint marks smoothed off and all blemishes removed immediately after removal of forms and then brush coated with grout and rubbed with wood float]. Exposed concrete slabs shall have a [steel trowel] [wood float] finish. Concrete surfaces not covered by forms shall be protected against moisture loss for not less than 7 days by covering with burlap, cotton, or other approved fabric mats or sand, all kept continually wet by covering surfaces with waterproof paper with edges and ends lapped and sealed or by membrane-forming curing compound conforming to ASTM C 309. Where formed surfaces are cured in the forms, the forms shall be kept continually wet. If forms are removed before the end of the curing period, curing shall be continued as on unformed surfaces using suitable materials.

2.2 FORMWORK

Formwork shall be provided so that the concrete conforms accurately to the indicated shapes, lines, dimensions, and with surfaces free of offset, waviness, or bulges. Where surfaces are to be exposed or painted, panels shall be manufacturer's stock size material, using smaller panels cut to required dimensions only where required by openings. Exposed corners shall be chamfered, beveled, or rounded by moldings placed in the forms. Surfaces shall be thoroughly cleaned and coated before each use. Forms shall be removed at a time and in a manner that will not injure the concrete.